

# Wings of War

®

LIMITED EDITION  
15 SELECT MODELS

EXCELLENT

15 PAPER AIRPLANES

HISTORY OF PASSENGER PLANE SERIES

DESIGNED BY  
DR. Y. NINOMIYA



DRAGON RAPIDE

**Assembly Kit**

Dr. Yasuaki Ninomiya was awarded the Grand Prize in both the flight time and distance divisions at the First International Paper Airplane Contest (Pacific Basin Division) in San Francisco in 1967 and served as a Judge in the Second Great International Paper Airplane Contest in Seattle in 1985.

# White Wings<sup>®</sup>

EXCELLENT PAPER AIRPLANES

## Assembly Kit for 15 Models

■ Kit includes the following gliders:

① Racer 538 Wren

② Racer 539 Hawk

③ Racer 540 Crane

④ Simple Plane 1

⑤ Simple Plane 2

⑥ Junkers F-13

⑦ Ford 5AT TRIMOTOR

⑧ De Havilland D.H.89 DRAGON RAPIDE

⑨ Douglas DC-3

⑩ Martin M-130 CHINA CLIPPER

⑪ De Havilland COMET

⑫ First Jet Transport in USA

⑬ Aérospatiale SE210 CARAVELLE

⑭ Aérospatiale/BAC CONCORDE

⑮ Leading Large-scale Passenger Plane

■ Instruction booklet

(68 pages)

Assembly, flight,  
and design directions

■ Also included:

Rubber band

Cataapult

(GLUE NOT INCLUDED)



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PHONE: (206) 885-4599  
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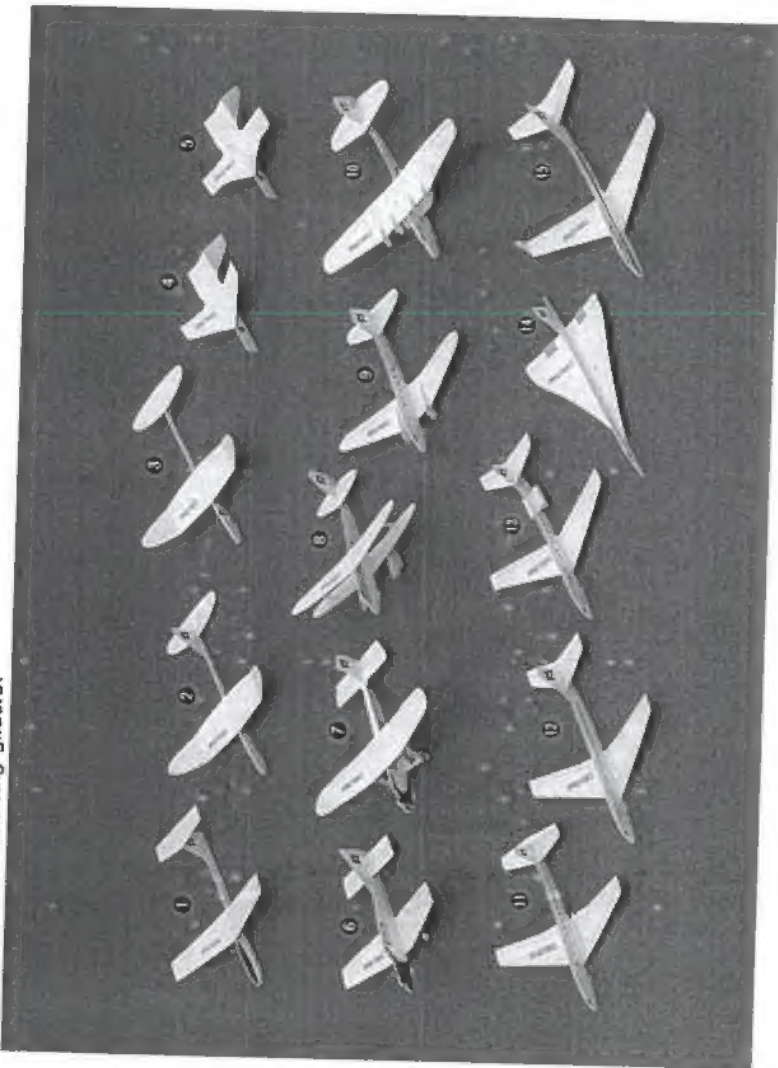
DESIGN PATENT PENDING

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### FLYING FUN FOR EVERYONE

When you fly your plane please keep the following in mind.

★ Launch your plane in a large area away from people who might get hit.

★ Don't fly your plane where cars will be passing by.



# Whitewings<sup>®</sup>

ASSEMBLY INSTRUCTIONS

FLIGHT INSTRUCTIONS

GUIDELINE FOR WHITEWINGS COMPETITION

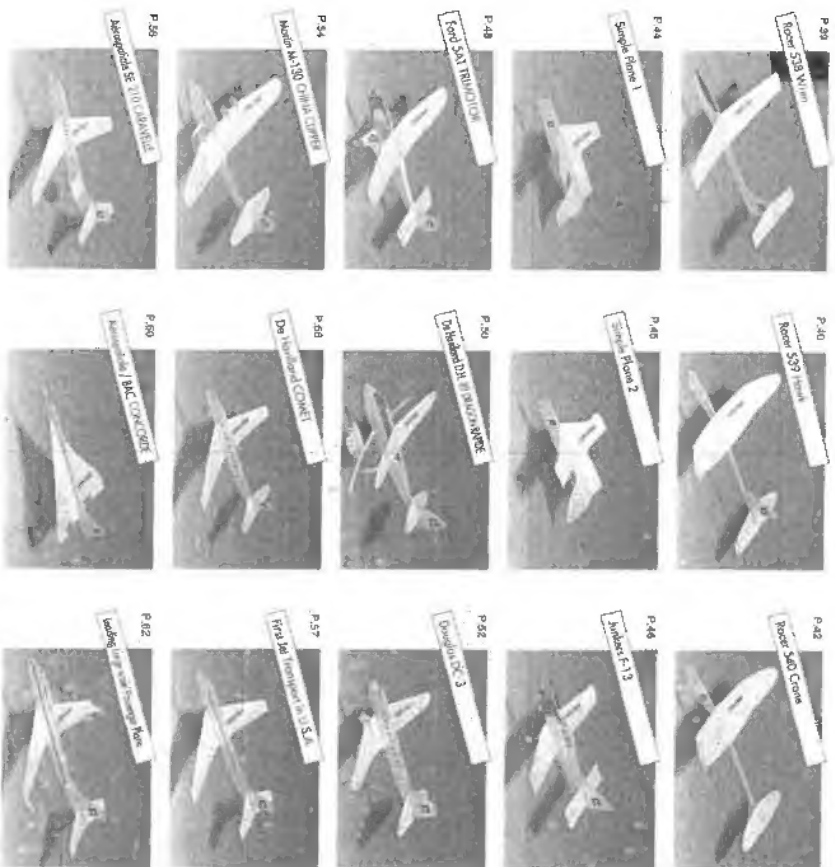
INTRODUCTION TO PAPER PLANE DESIGN

HOW TO BUILD "WHITEWINGS"

## HISTORY OF PASSENGER PLANE SERIES



## HOW TO BUILD "WHITEWINGS"



4. Glue the horizontal stabilizer (13) onto the tab of the vertical stabilizer.

5. Place a ruler along the center line of main wing, bend each side up individually to make a dihedral angle of approximately 13° using the dihedral angle gauge.

6. Glue the main wing (18) + (19) firmly to the fuselage.

### FINISHING TOUCHES

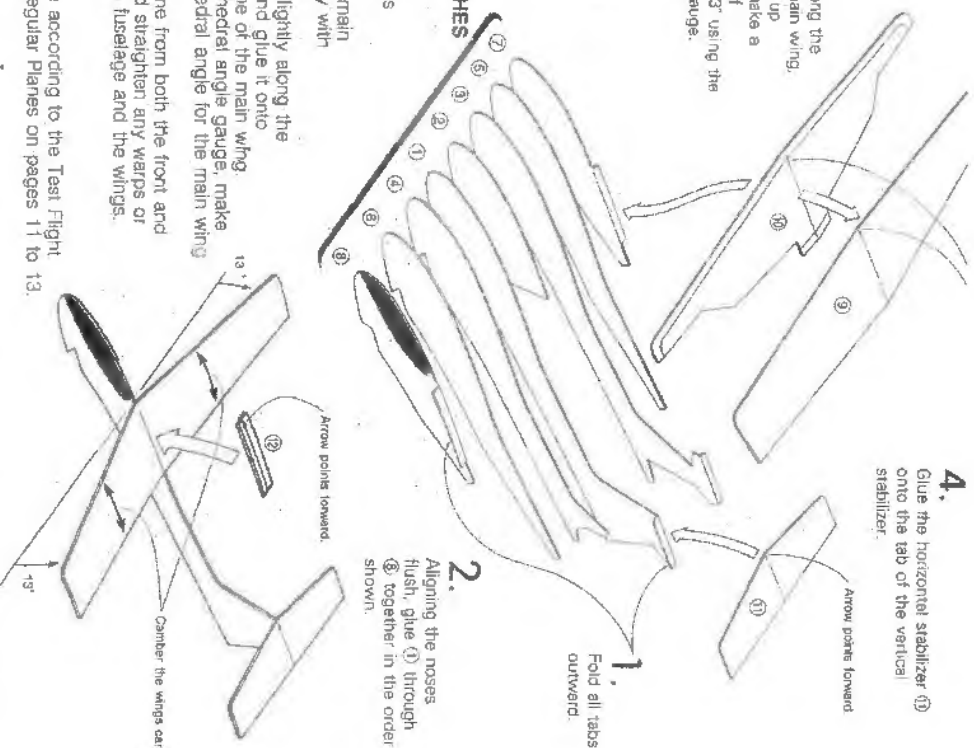
- Give the finishing touches to the plane after it dries thoroughly.
7. Camber the main wings slightly with your fingers.
8. Fold (2) up slightly along the center line and glue it onto the center line of the main wing.
9. Using the dihedral angle gauge, make sure the dihedral angle for the main wing is 13°.
10. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

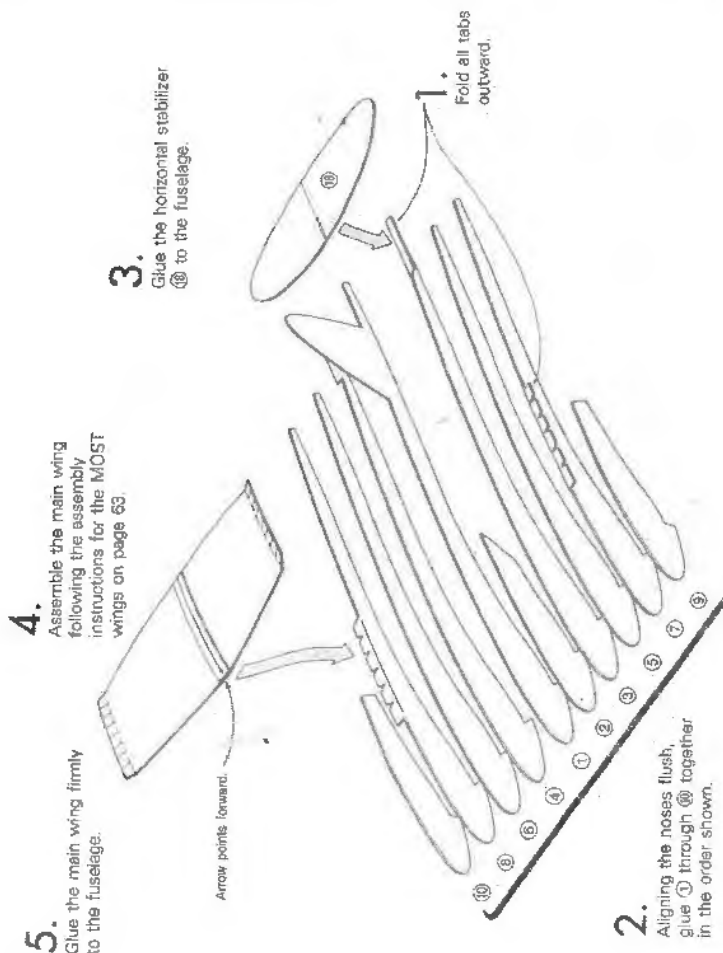
### [NOTE]

As the vertical stabilizer of the plane with T-shape horizontal stabilizer needs to be strong enough to support the horizontal stabilizer on it, this part is designed a little heavier than that of the other type of racer planes. For this reason, the fuselage might bend when the plane crash into the ground so make sure that the fuselage has no bends in it before flying it.

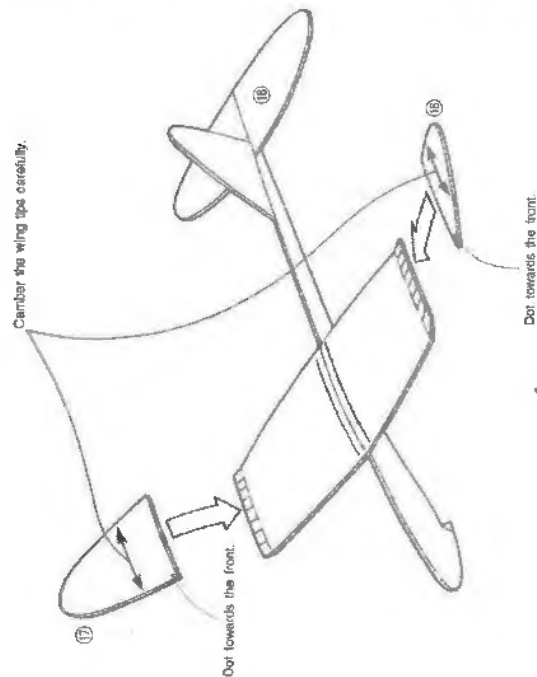


## GLUING INSTRUCTIONS

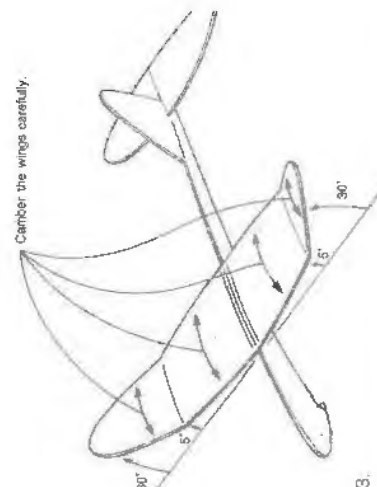
Glue the parts together in the order indicated.



6. Camber both wing tips (16) and (17). Fold tabs on both ends of the main wing to form a 30° dihedral angle using the gauge and then camber them as well.



7. Apply glue to the top surface of the folded tabs of the main wing. Attach wing tips (16) and (17) respectively. Once again, check that the dihedral angle at the tip of the wing is 30°, using the gauge.



## FINISHING TOUCHES

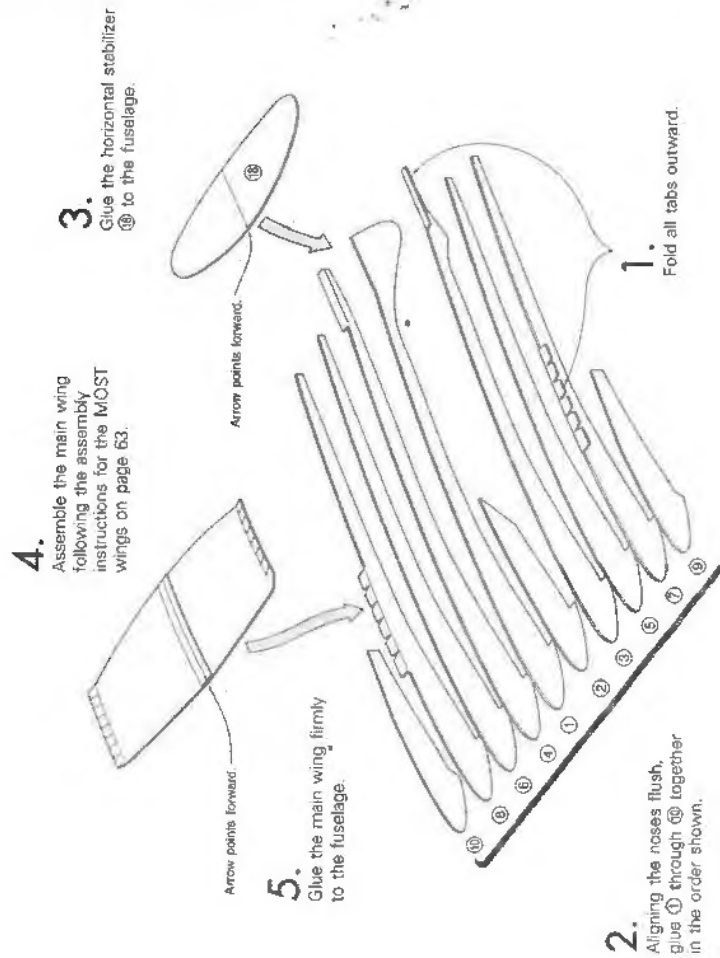
- Give the finishing touches to the plane after it dries thoroughly.
- 8. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 5° and for the wing tips is 30°.
- 9. Camber the main wings carefully with your fingers.
- 10. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

## TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on page 11 to 13.

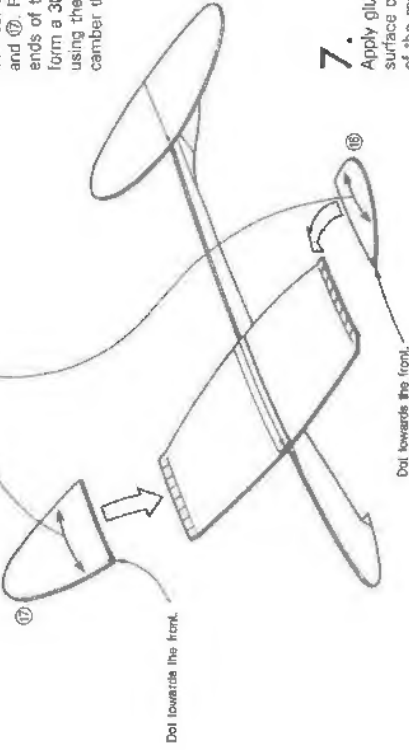
## GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



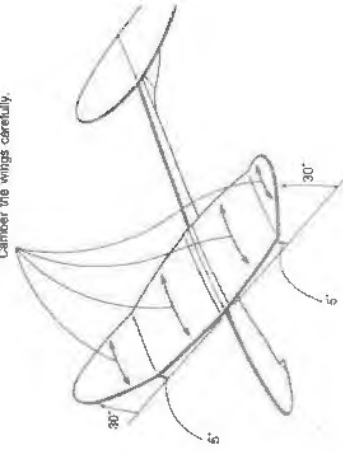
Camber the wing tips carefully.

6. Camber both wing tips ⑬ and ⑭. Fold tabs on both ends of the main wing to form a 30° dihedral angle using the gauge and then camber them as well.



7. Apply glue to the top surface of the folded tabs of the main wing. Attach wing tips ⑬ and ⑭ respectively. Once again, check that the dihedral angle at the tip of the wing is 30°, using the gauge.

Camber the wings carefully.

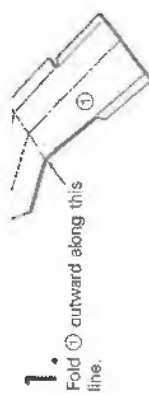


## FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 8. Using the dihedral angle gauge make sure the dihedral angle for the main wing is 5° and for the wing tips is 30°.
- 9. Camber the main wings carefully with your fingers.
- 10. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

## TEST FLIGHT

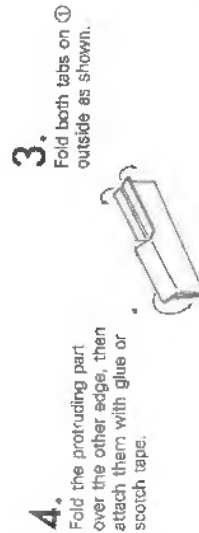
- Test fly the plane according to the Test Flight instructions for Regular Planes on page 11 to 13.



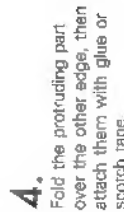
1. Fold ① outward along this line.



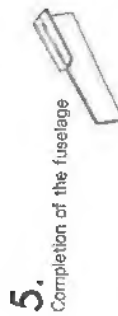
2. Turn up the folded smaller part of ① and fold it inward along the center line.



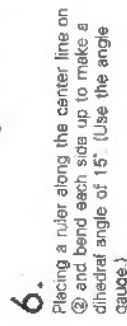
3. Fold both tabs on ① outside as shown.



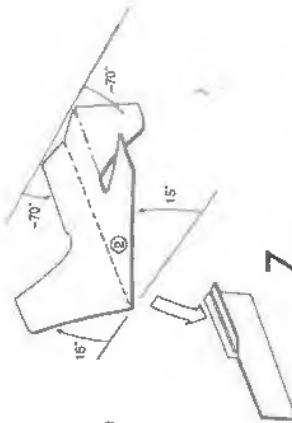
4. Fold the protruding part over the other edge, then attach them with glue or scotch tape.



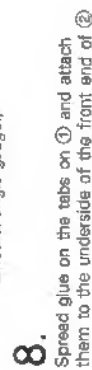
5. Completion of the fuselage line.



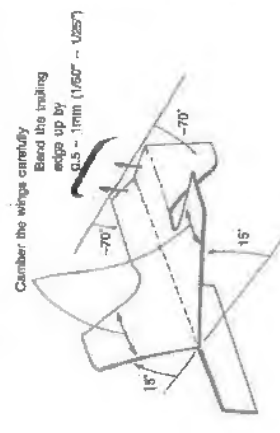
6. Placing a ruler along the center line on ② and bend each side up to make a dihedral angle of 15°. (Use the angle gauge.)



7. Bend each side of the horizontal stabilizer along the long dash and dotted line 70° downward. (Use the dihedral angle gauge.)



8. Spread glue on the tabs on ① and attach them to the underside of the front end of ②.



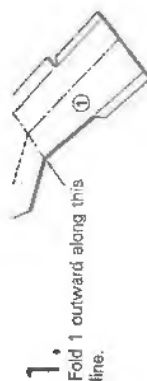
9. Camber the wings carefully. Bend the trailing edges up by 0.5 - 1mm (0.02" - 0.04").

## FINISHING TOUCHES

- Before the glue dries, fix ① and ② with your fingers carefully to ensure the center lines of both ① and ② are on the straight.
- Camber the main wing slightly with your fingers.
- Place the angle gauge at the upper side of the main wing and make sure that the dihedral angle for the main wing is 15°.
- Bend the trailing edge of the horizontal stabilizer 0.5 - 1mm (1/50 - 1/25") up.
- Placing the angle gauge at the underside of the horizontal stabilizer make sure that the dihedral angle is -70°.
- View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

## TEST FLIGHT

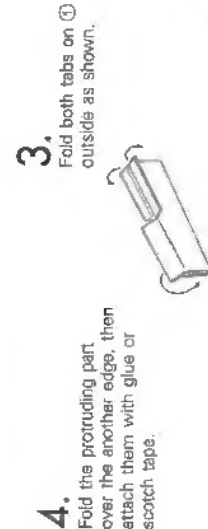
- Test fly the plane according to the Test Flight instructions for Regular Planes on page 11 to 13.



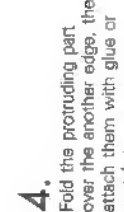
1. Fold ① outward along this line.



2. Turn up the folded smaller part of ① and fold it inward along the center line.



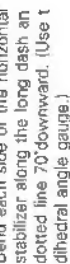
3. Fold both tabs on ① outside as shown.



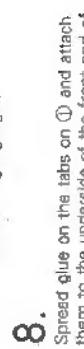
4. Fold the protruding part over the other edge, then attach them with glue or scotch tape.



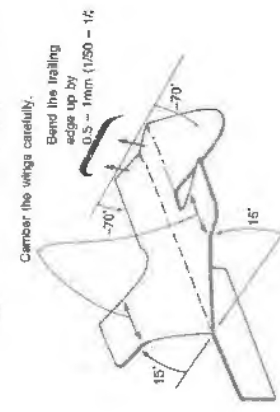
5. Completion of the fuselage line.



6. Placing a ruler along the center line on ② and bend each side up to make a dihedral angle of 15°. (Use the angle gauge.)



7. Bend each side of the horizontal stabilizer along the long dash and dotted line 70° downward. (Use the dihedral angle gauge.)



8. Spread glue on the tabs on ① and attach them to the underside of the front end of ②.

## TEST FLIGHT

- Test fly the plane according to the test flight instructions for Regular Planes on pages 11 to 13.

features an open design for pilots to gain headwinds in their favor. The projecting horn on the plane nose is the exhaust pipe for the engine.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated.

1. Cut out the slit on part ① into which the horizontal stabilizer will be inserted.
2. Insert the horizontal stabilizer ⑭ into the slit of the vertical stabilizer. Then, apply glue on the tabs to fix the horizontal stabilizer, aligning its center line and that of the fuselage. Find the center line of the horizontal stabilizer using the center guidelines.



3. Cut out the slit on part ① into which the horizontal stabilizer will be inserted.
4. Fold all tabs outward.



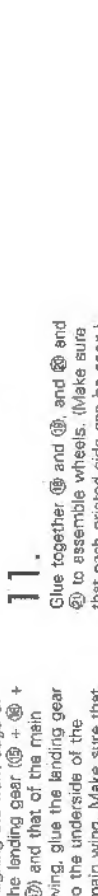
5. Glue the main wing ⑫ + ⑬ firmly to the fuselage aligning their center lines.
6. Glue ⑮ to the underside of ⑫. When dry, cut off the protruding portions.



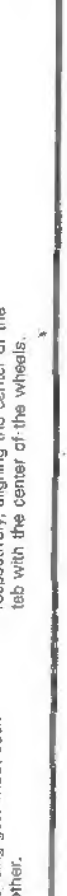
7. Give the finishing touches to the plane after it dries thoroughly.
8. Camber the wing tips which have a dihedral angle carefully with your fingers.
9. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
10. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
11. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



11. Glue together ⑮ and ⑯, and ⑰ and ⑱ to assemble wheels. (Make sure that each printed side can be seen.) Then, as shown in the figure, glue the wheels to the landing gear respectively, aligning the center of the tab with the center of the wheels.



12. Camber the wing tips which have a dihedral angle carefully with your fingers.
13. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
14. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
15. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



16. Give the finishing touches to the plane after it dries thoroughly.
17. Camber the wing tips which have a dihedral angle carefully with your fingers.
18. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
19. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
20. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.

TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

Place a ruler along right and left lines on the main wing. Using a dihedral angle gauge, make a dihedral angle of 10°.

8. Glue the main wing ⑫ + ⑬ firmly to the fuselage aligning their center lines.
4. Glue ⑮ to the underside of ⑫. When dry, cut off the protruding portions.

Camber the wing tips carefully.



12. Camber the wing tips which have a dihedral angle carefully with your fingers.
13. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
14. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
15. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



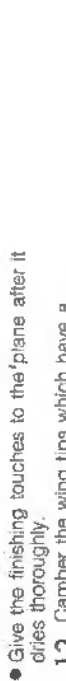
16. Give the finishing touches to the plane after it dries thoroughly.
17. Camber the wing tips which have a dihedral angle carefully with your fingers.
18. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
19. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
20. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



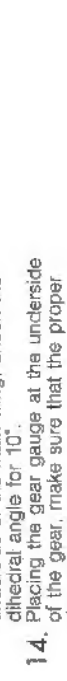
17. Give the finishing touches to the plane after it dries thoroughly.
18. Camber the wing tips which have a dihedral angle carefully with your fingers.
19. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
20. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
21. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



18. Give the finishing touches to the plane after it dries thoroughly.
19. Camber the wing tips which have a dihedral angle carefully with your fingers.
20. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
21. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
22. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



19. Give the finishing touches to the plane after it dries thoroughly.
20. Camber the wing tips which have a dihedral angle carefully with your fingers.
21. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
22. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
23. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



20. Give the finishing touches to the plane after it dries thoroughly.
21. Camber the wing tips which have a dihedral angle carefully with your fingers.
22. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
23. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
24. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



21. Give the finishing touches to the plane after it dries thoroughly.
22. Camber the wing tips which have a dihedral angle carefully with your fingers.
23. Placing the dihedral angle gauge at the underside of the main wing, check the dihedral angle for 10°.
24. Placing the gear gauge at the underside of the gear, make sure that the proper degrees are set.
25. View the plane from both the front and the back and straighten any warps or bends in the fuselage and wings.



TEST FLIGHT

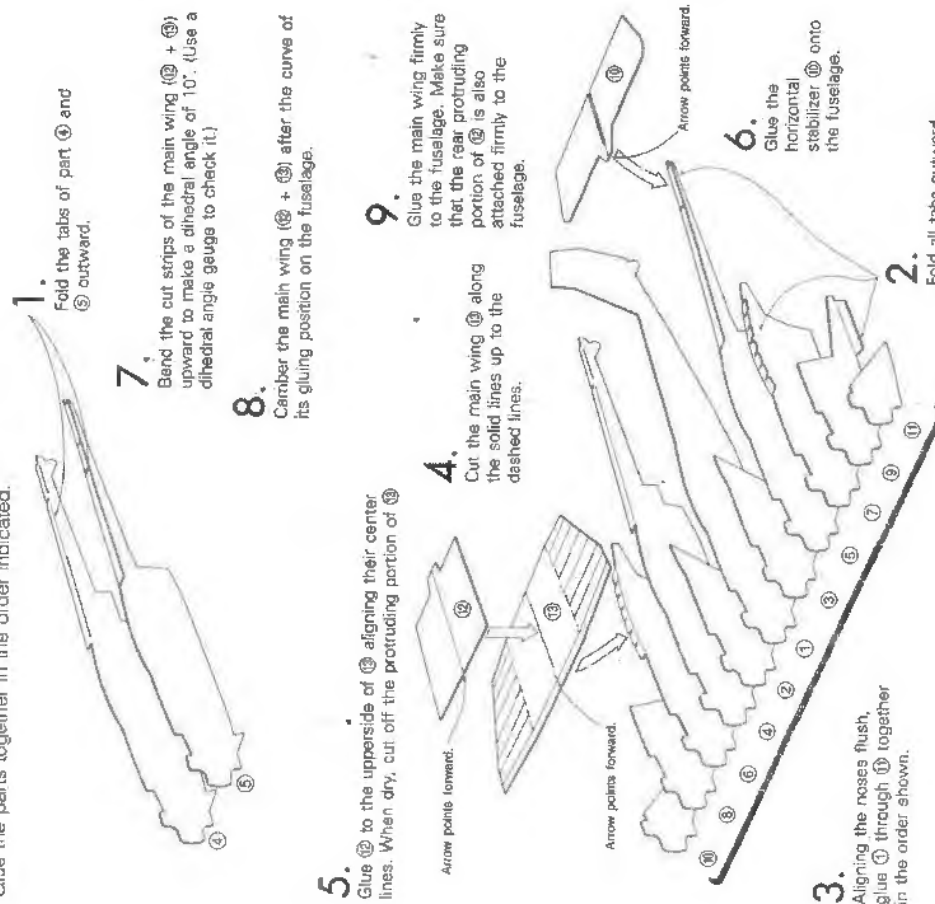
- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.



by professor Junkers. The 5AT, a larger plane with an engine utilizing more horse power, made its maiden voyage in 1928. More than 100 of the planes were produced and these Ford 5AT TRIMOTOR aircraft are still being used today in charter sightseeing service in the USA.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



11. Give the camber to the wing tips 14 and 15 equally to the main wing.

12.

Apply glue on the cut strips of the main wing and glue the wing tips 14 and 15 respectively. Before they dry, make a 10° angle on both 14 and 15 using the gauge.

15.

Fold the upper tabs of the landing gear 16, 17 and 18. Glue 16 and 17 and 18 together. Then, glue the tabs of the two landing gears to the underside of the main wing. Apply each of them respectively to the front edge of the joint portion of the main wing and the wing tip.

14.

Glue 16 + 17 to the underside of the fuselage aligning the front and back notches of 16 + 17 with the center of the fuselage.

13.

Fold parts 17 and 18 as shown. Then, glue 17 to the underside of 16.

16.

View the plane from the front and adjust the fuselage and the gears so that they form a 90° angle at the main wing. Then, glue the tabs of 17 + 18 respectively to the inner sides of the gears 16 + 17 and 18 + 19.

### FINISHING TOUCHES

• Give the finishing touches to the plane after it dries thoroughly.

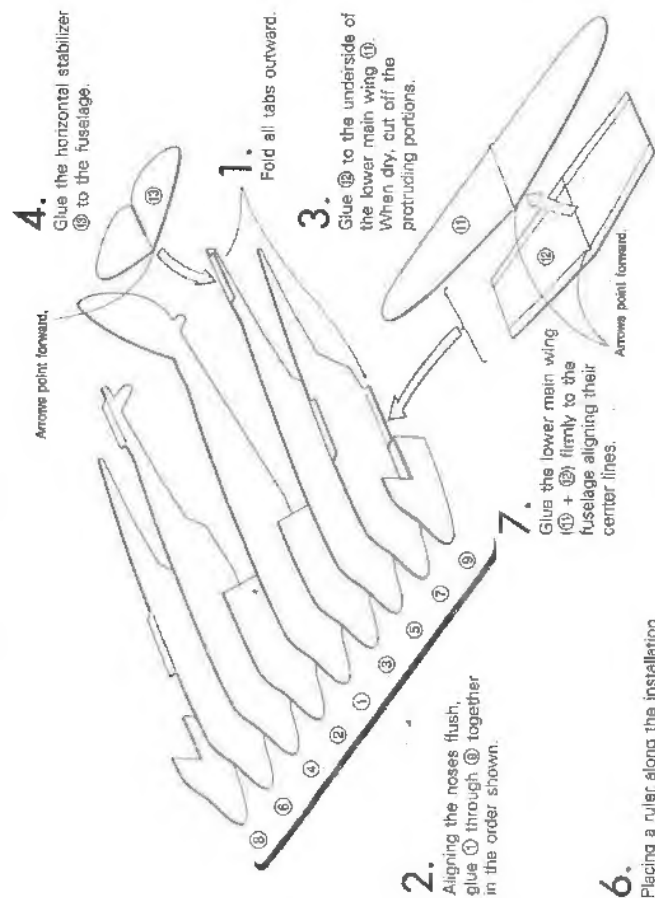
17. Camber the wings carefully with your fingers.

18. Using the dihedral angle gauge, make sure the dihedral angle for the main wing is 10°.

19. View the plane from the front and the back and straighten any warps or bends in the fuselage and wings.

### TEST FLIGHT

• Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

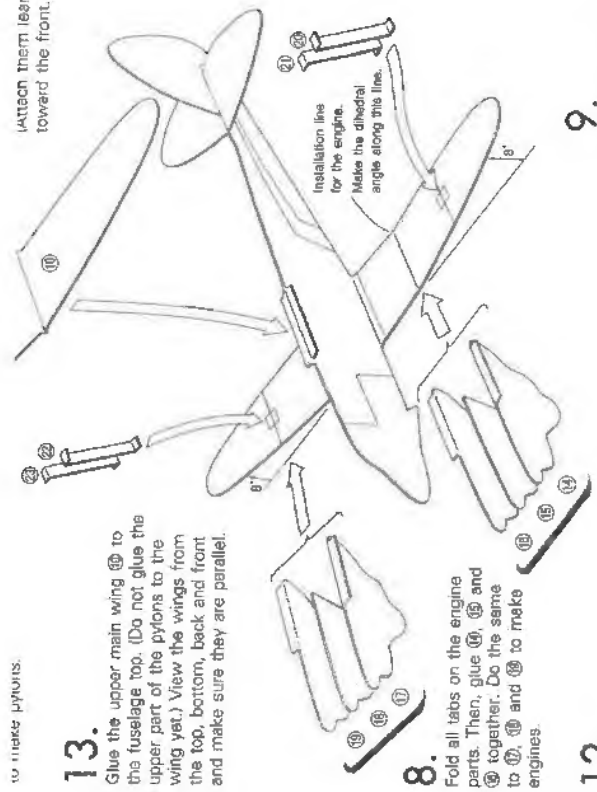


1. Fold all tabs outward.
2. Aligning the noses flush, glue ① through ③ together in the order shown.
3. Glue ⑫ to the underside of the lower main wing ⑪. When dry, cut off the protruding portions.
4. Glue the horizontal stabilizer ⑬ to the fuselage.
5. Draw a center line on the underside of the lower main wing ⑪ + ⑫). (Refer to [NOTE])
6. Placing a ruler along the installation lines on the main wing, make a dihedral angle of 8° for both sides of the main wing. (Use the dihedral angle gauge.)
7. Glue the lower main wing ⑪ + ⑫) firmly to the fuselage aligning their center lines.

**[NOTE]**  
Make pinholes at both ends of the main wing. Turn the main wing over. Link the pinholes together with a ruler and draw a center line on the unprinted side of the main wing.

to make pylons.

(Attach them leaning slightly toward the front.)



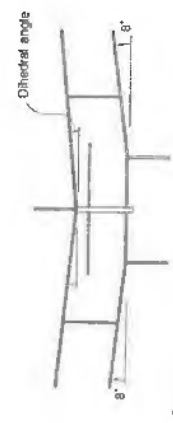
8. Fold all tabs on the engine parts. Then, glue ⑭, ⑮ and ⑯ together. Do the same to ⑭, ⑮ and ⑯ to make engines.
9. Attach those engines to the underside of the lower main wing aligning with the installation lines.
10. Placing a ruler along the center line of the upper main wing ⑩, make a dihedral angle.
11. Placing a ruler along the center line of the upper main wing ⑩, make a dihedral angle.
12. Placing a ruler along the center line of the upper main wing ⑩, make a dihedral angle.
13. Glue the upper main wing ⑩ to the fuselage too. (Do not glue the upper part of the pylons to the wing yet.) View the wings from the top, bottom, back and front and make sure they are parallel.

### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- 15. Camber both the upper and the lower main wings slightly with your fingers.
- 16. Using the dihedral angle gauge, make sure the dihedral angle for the lower main wing is 8°.
- 17. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.



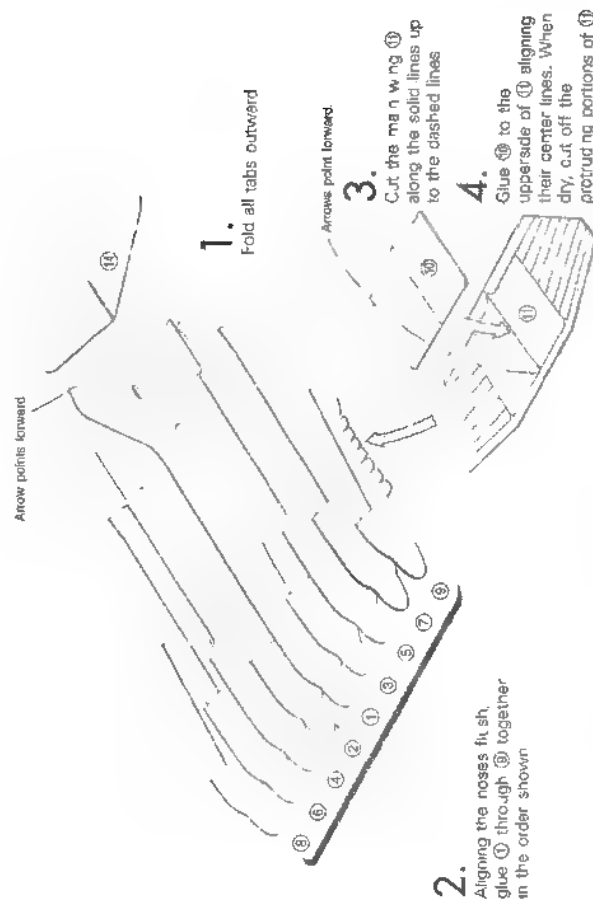
14.

View the plane from the front to check that the fuselage and the pylons are parallel. Then, glue the top part of the pylons to the underside of the upper main wing.

high quality and economical efficiency. An unprecedented production of more than 10,000 planes were made for civilian and military transport use.

## GLUING INSTRUCTIONS

Use the parts together in the order indicated.



1. Fold all tabs outward

Arrows point inward

3. Cut the main wing (1) along the solid lines up to the dashed lines

4. Glue (2) to the underside of (1) aligning their center lines. When dry, cut off the protruding portions of (2)

5. Referring to (NOTE) on page 50, draw the center line on the underside of the main wing ((9) + (10))

9. Examining carefully the curve of the wing position for the main wing under the fuselage, adjust the camber of the main wing evenly from the root to both edges. Check that the dihedral angle of the cut strips of the main wing is 10°

2. Aligning the noses, fit, sh, glue (1) through (3) together in the order shown

6. Band the cut strips of the main wing ((9) + (10)) upward to make a dihedral angle of 10° (Use the dihedral angle gauge to check it)

7. Camber the main wing ((9) + (10)) after the curve of its gluing position under the fuselage.

8. Glue the main wing firmly to the fuselage aligning their center lines.

10°



12. Fold all tabs of engine parts (13) through (16)

14.

Slide the assembled engine onto the main wing. Put the left and right engines respectively onto the front notches of the front portion of the main wing and the wing tips. Then, attach both engines to the main wing with glue

10.

Camber the wing tips (17) and (18) equally to the main wing. Refer to Figure 1 on page 10. It is very important to camber the entire main wing evenly from the root to both edges so that it generates the equal angle of setting from the wing root to both edges. (The dashed line in the figure 1 on page 10 shows an inappropriate camber which creates different angles of settings between the wing root and both edges)

## FINISHING TOUCHES

Give the finishing touches to the plane after it dries thoroughly

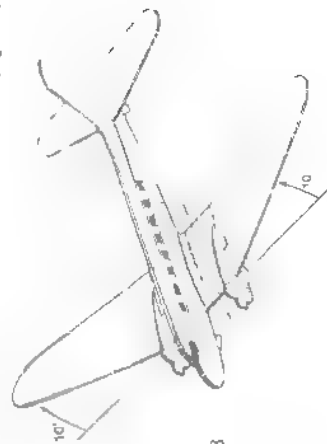
15. Camber the main wing carefully with your fingers. As this plane has a sweptback wing, the angle of setting tends to be upward at the wing edges. However, it is wrong. (Refer to Figure 1 on page 10.) Adjust the camber to place an equal angle of setting from the wing root to wing edges

16. Using the dihedral angle gauge, check that the dihedral angle of the wings tips is 10°

17. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing

## TEST FLIGHT

Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13. When test flying your plane, observe its flight carefully. In the case that the plane tends to circle slightly, remember if it turns to the right or to the left. When you want this plane to fly high, launch the plane, bring it to the direction the plane curved so that it climbs up higher for an excellent flight



and "PHILLIPINE CLIPPER" began scheduled service across the Pacific Ocean in 1936. This transpacific service proved that a large flying boat with multi-engines were well suited in those days to the routes crossing the Pacific Ocean.

### GLUING INSTRUCTIONS

Glue the parts together in the order and called

3. Assemble the sponson
  - 3-1. Fold ⑩ outward along the center line and fold all tabs outward. As a result the pointed side and all the tabs will be facing outward.
  - 3-2. Sew the inside of the two folds of ⑩. Then spread glue on the shaded portion as shown in the figure and give the part together to complete its bag shape.
  - 3-3. Insert a pencil into the sponson and swell it again to make it into a streamline shape.
  - 3-4. Assemble part ⑩ in the same manner.
4. Glue this sponson ⑩ to the printed box on the left side of the fuselage. Glue the sponson ⑩ to the printed box on the right side of the fuselage.
6. Cut part ⑭ along the solid lines up to the dashed lines.
  7. Glue ⑭ to the upper side of ⑭. When dry, cut off the protruding portions.
  9. Placing a ruler along the dashed line on both edges of the main wing ⑭ + ⑮, bend the strips upward to make a dihedral angle of 10°.
  10. Camber the main wing ⑭ + ⑮ after the curve of its gluing position on the fuselage.
  11. Glue the main wing firmly to the fuselage.
8. Glue the horizontal stabilizer ⑩ to the fuselage.

12. Camber the wing tips carefully.
  13. According to the curve of the gluing position for the main wing on the fuselage, camber the main wing ⑭ + ⑮ evenly up to both edges. Make sure that the dihedral angle for the folded tabs are 10°.
  14. Camber both wing tips ⑭ and ⑮ equally to the main wing.
  15. Do it towards the front.
  16. Camber the wing tips carefully.
  17. Using the engine installation lines and cuts on the main wing as a guide, glue the four engines to the main wing.

18. Give the finishing touches to the plane after it dries thoroughly.
  19. Adjust the camber of both the main wing and the wing tips carefully with your fingers.
  20. Using the dihedral angle gauge, check again that the dihedral angle of the main wing is 10°.
  21. View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wings.

### FINISHING TOUCHES

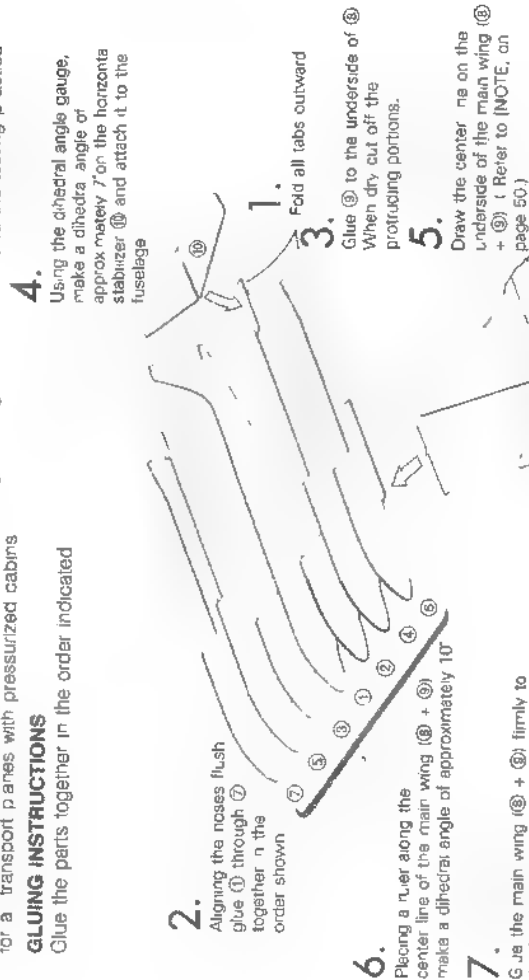
### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13.

However, accidents occurred two years later when planes experienced in-flight disintegration twice. After a large-scale investigation, it was revealed that the accidents were caused by a fatigue fracture of the pressurized cabin. COMET 4 was produced with a built-in countermeasure to prevent fatigue fracture of the pressurized cabin. This led to the improved design, stronger construction and the testing practice for a transport planes with pressurized cabins.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated

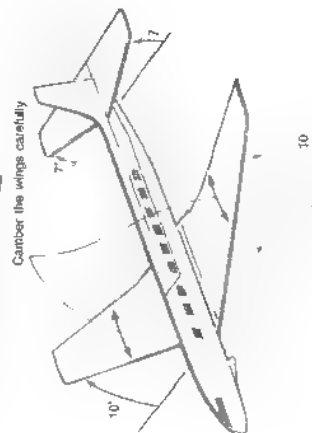


### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- Camber the main wing slightly with your fingers.
- Place the dihedral angle gauge at the underside of the main wing and make sure the dihedral angle for the main wing is 10°.
- Place the dihedral angle gauge at the underside of the horizontal stabilizer, then make sure the dihedral angle for the horizontal stabilizer is 7°.
- View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

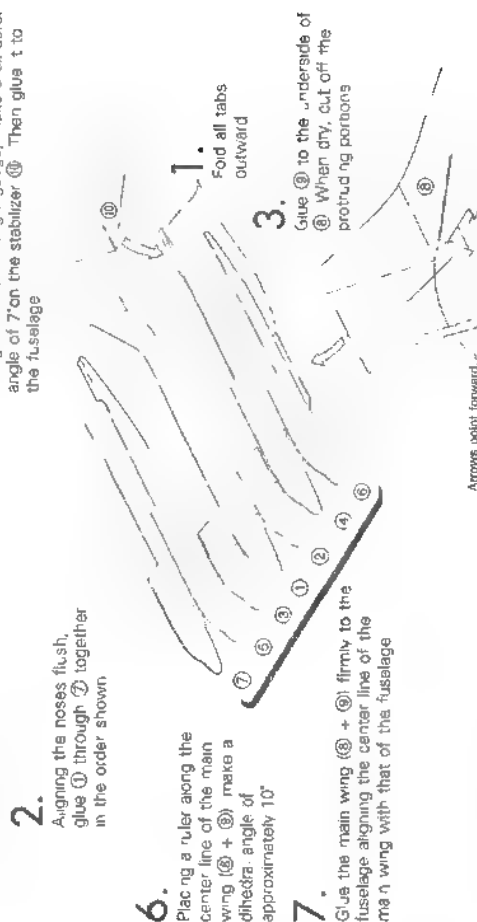
- Test fly the plane according to the Test Flight instructions for Regular Planes on page 11 to 13



the main wing and suppress of wing flutter. Based on this technology, Boeing developed the jet tanker KC-135 and furthermore put the first passenger jet, the Boeing 707. In practice, use in the USA (first flight in 1954). This passenger jet, compared to planes with reciprocating engines, resulted in flights at twice the speed and payload capacity. That is, almost four times in transport effectiveness.

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated

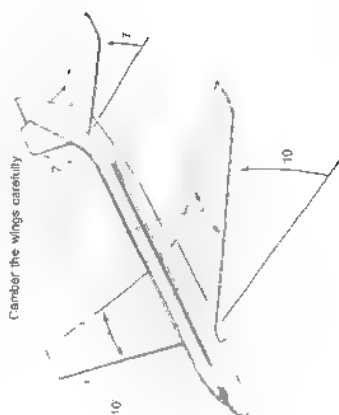


### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly.
- Camber the main wings slightly with your fingers.
- Place the dihedral angle gauge at the underside of the main wing and make sure the dihedral angle for the main wing is 10°.
- Place the dihedral angle gauge at the underside of the horizontal stabilizer, make sure the dihedral angle for the horizontal stabilizer is 7°.
- View the plane from the front and the back and straighten any warps or bends in the fuselage and the wings.

### TEST FLIGHT

- Test fly the plane according to the Test Flight instructions for Regular Planes on pages 11 to 13





coming from the CARAVELLE or the engine pod with pylons on the front edges of the main wing that were used in Boeing B-47 and 707

## GLUING INSTRUCTIONS

Glue the parts together in the order indicated

View from the front



Fuselage

5. In the same manner mentioned in Instructions 3 and 4, glue the engine ⑫ to the right tab on the fuselage

1. Fold all tabs outward



4. Glue the engine ⑫ to the left tab on the fuselage

2. Aligning the noses flush, glue ① through ⑦ together in the order shown

⑩ to the tab of the fuselage aligning their front edges

7. Glue ⑧ to the underside of ③. When dry, cut off the protruding portions

8. Referring to on page 50 draw the center line on the underside of the main wing (③ + ⑤)

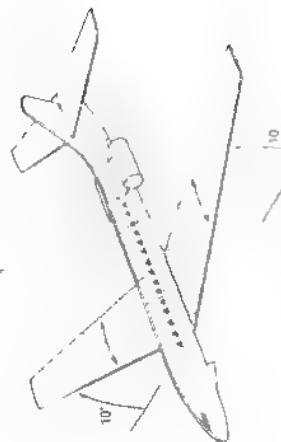
9. Place a ruler along the center line of the main wing and bend each side up individually to make a dihedral angle of 10°

10. Glue the main wing trim to the fuselage aligning their center lines

## FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly
- 11. Camber the main wing slightly with your fingers
- 12. Placing the dihedral angle gauge on the underside of the main wing make sure the dihedral angle for the main wing is 10°
- 13. View the plane from the front and the back and straighten any warps or bends in the fuselage and wings

Camber the wings carefully



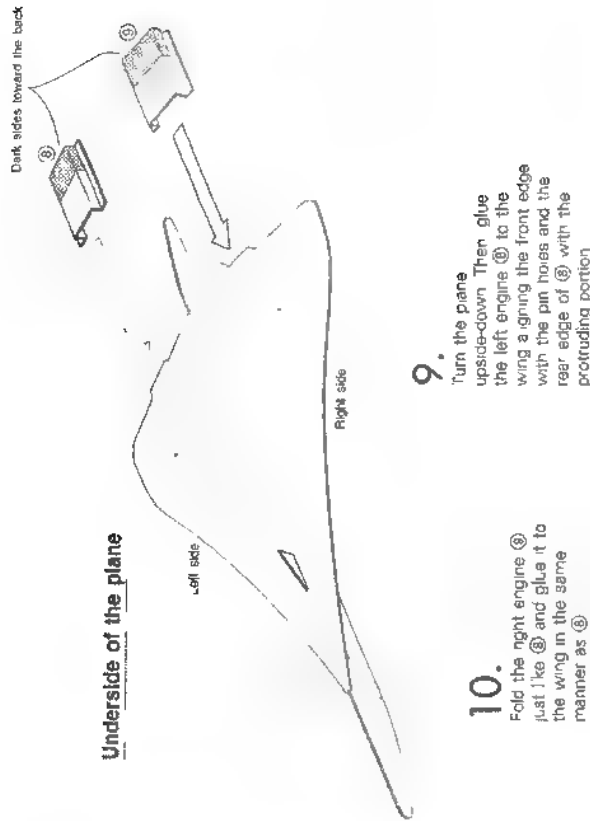
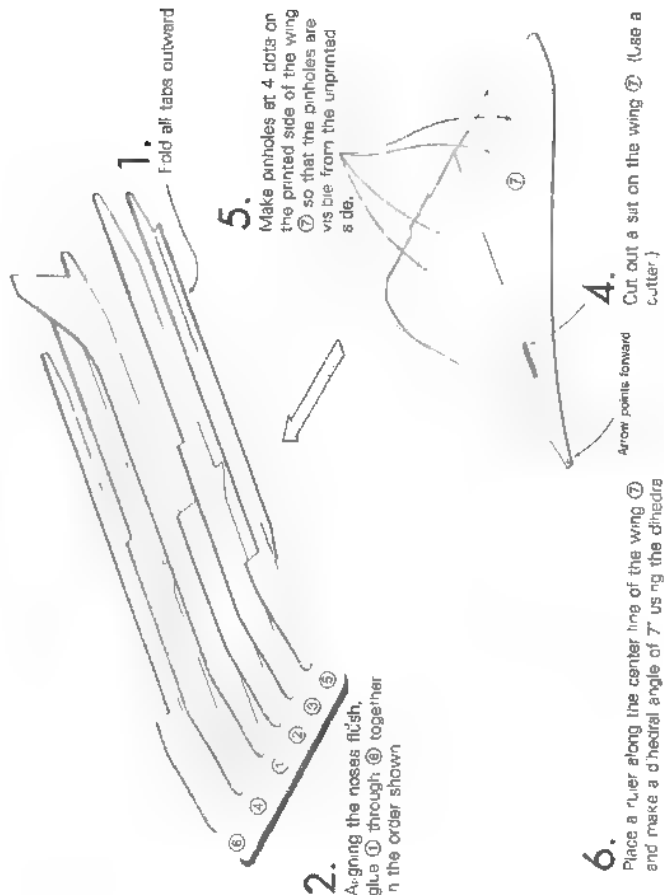
## TEST FLIGHT

- Test fly the plane according to Test Flight instructions for Regular Planes on pages 11 to 13

produced. The CONCORDE service by British Airway and Air France have continued without accident, and carrying as many as 144 passengers

## GLUING INSTRUCTIONS

Glue the parts together in the order indicated.



## FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly
- Place the dihedral angle gauge at the underside of the wing and make sure the dihedral angle of the wing is 7°
- Bend both trailing edges of the wing up by approximately 1mm (1/24"). Do not forget this or the plane won't fly.
- View the plane from both the front and the back and straighten any warps or bends in the fuselage and the wing

## TEST FLIGHT

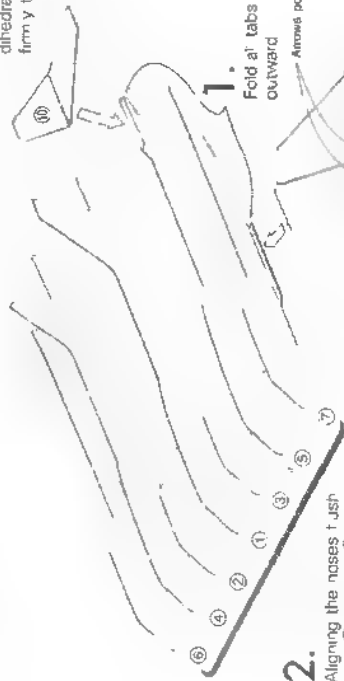
- Test fly the plane according to the Test Flight instructions for Delta Wing P-13 on page 13



latest model 747-400, some improvements were made. The most conspicuous change in appearance is the wing at the edge of the wing that extends flight range. Instead of mechanical indicators, in addition the improvement of computers and CRT was introduced in the cockpit to operate the plane more economically with 2 pilots

### GLUING INSTRUCTIONS

Glue the parts together in the order indicated



2.

Aligning the noses together glue 1 through 7 together in the order shown

### FINISHING TOUCHES

- Give the finishing touches to the plane after it dries thoroughly
8. Camber the main wing slightly with your fingers
9. Placing the dihedral angle gauge at the underside of the main wing, make sure the dihedral angle of the main wing is 10°
10. Place the gauge at the edges of the main wing and check that the dihedral angle of the winglets are 65° against the main wing
11. Placing the dihedral angle gauge at the upper side of the horizontal stabilizer, make sure that the dihedral angle is 7°
12. View the plane from the front and the back and straighten any warps or bends in the fuselage and wings

### TEST FLIGHT

- Test fly the plane according to the Test Flight instruction for Regular Planes on pages 11 to 13

wing. Because the shape of the central part of the wing resembles a so-called saddle shaped surface in math, I call this type of wing a MOST (Modified Saddle Type) wing. It is constructed as follows

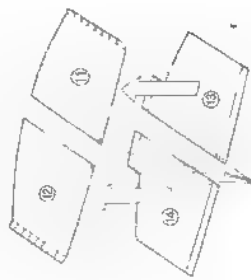
1.

Cut parts 1 and 2 along the solid lines up to the dashed lines. Then placing a ruler along the dashed line, bend the resulting strips slightly upward



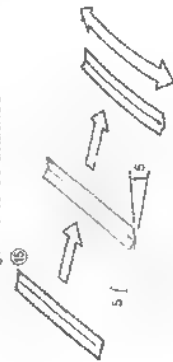
2.

Glue parts 3 and 4 to the underside of parts 1 and 2 respectively when dry, cut off the protruding portions



3.

Using a ruler along the center line, fold part 5 from the center line to make 5 angle on both sides. Then curve it carefully with your fingers to fit the curved fuselage top where the main wings are to be attached



This curve is called camber



5.

Apply glue on half of the underside of 5 and glue onto 6 + 7. (The arrow should point toward the dot)



6.

In the same manner as in 4-5 attach 8 + 9 to the other side of 5



7.

Placing the dihedral angle gauge on the main wing check that the dihedral angle is 5°



8.

Putting folded stands under the main wing will be conducive to fast and thorough drying

Arrow points forward

⑧

10" 10" 7" D hedra angle gauge

WhiteWings

Arrow points forward.

⑨

Fold with dashed line inside  
Arrows point forward

Bend res stant  
direction

WhiteWings®

De Havilland COMET



③

④

⑦



②

L

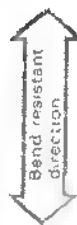
⑤

④

⑥







# White Wings®

## Martin M-130 CHINA CLIPPER



Handwritten text, possibly a date or code, consisting of several vertical strokes.



A circled number 8.

A circled number 1.

A circled number 4.

A small handwritten mark, possibly a number 2.

Guide lines for  
engine installation

Arrow points

Guide lines for  
engine installation

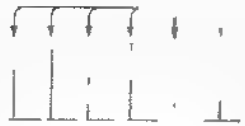
Guide lines for  
engine installation

Arrow points forward

Guide lines for  
engine installation



13



14

Cut along the solid line  
up to the dashed line

15

Cut along the solid line  
up to the dashed line

Dots toward the front

16

Fold with dashed line inside  
Arrows point forward

WhiteWings



17

Arrow points forward

20

24

22

26



21



23



25



27

WhiteWings®

Martin M-130 CHINA CLIPPER

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Arrow points forward

**WhiteWings**

Arrow points forward

9

12

Arrow points forward

10

Arrow points forward

11

Fold with dashed line inside  
Arrows point forward

Bend-resistant  
direction

Dihedral angle gauge

3'

**WhiteWings**<sup>®</sup>

Racer 538 Wren





③

⑦



②

⑤

①

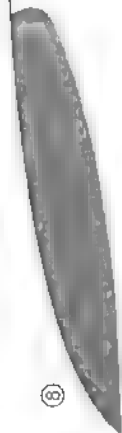
④

⑥

⑧

⑨

⑩





Arrow points forward

WhiteWings

1  
Install on for the engine  
Make the dihedral angle along this line

Arrow points forward

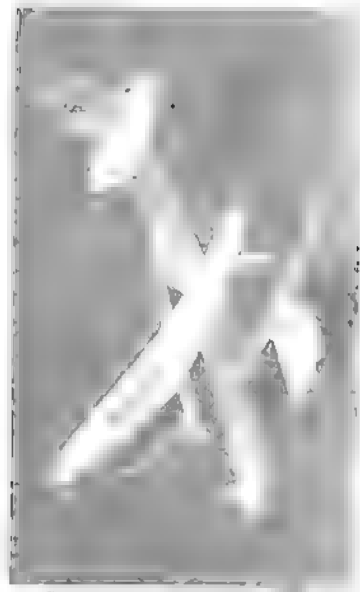
Arrow points forward

17  
Fold with dashed line inside  
Arrows point forward

gauge

8"

18  
Bend resistant direction



WhiteWings® De Havilland D.H. 89 DRAGON RAPIDE

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WhiteWings



D fold angle gauge

Fold with dashed line inside  
Arrows point forward



WhiteWings  
First Jet Transport in U.S.A.



⑤

③

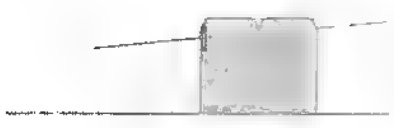
①

④

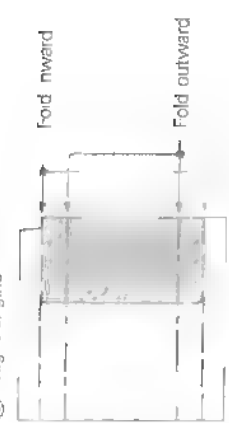
⑥

WhiteWings

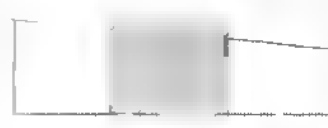
Dihedral gauge



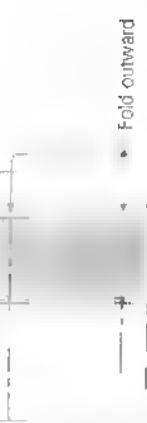
⑧ Right engine



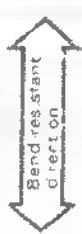
Cut out this



⑧ Left engine

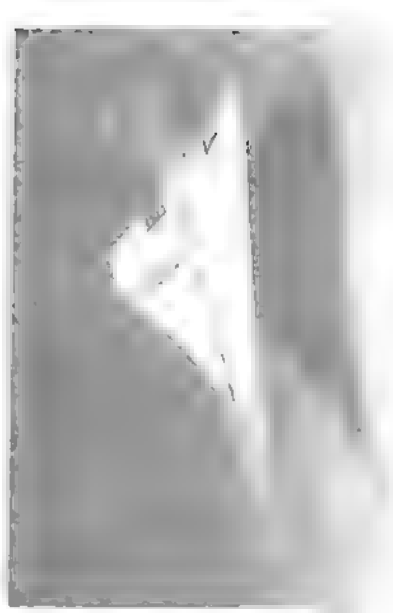


--- Fold with dashed line inside  
--- Arrows point forward



WhiteWings<sup>®</sup> Aérospatiale/BAC CONCORDE

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(3)

(5)

(2)

(1)

(4)

(6)





--- Fold with dashed line inside  
↑ Arrows point forward



# WhiteWings

(8)



9

Fold the right winglet up along this line

Fold the right winglet up along this line

# WhiteWings

Leading Large-scale  
Passenger Plane



— — — — —

⑤

(6)

.....



(4)

⑦

.....

.....

1

③

②

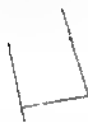


①

— — — — —

Arrow points forward

⑩



⑧

WhiteWings



Arrow points forward

⑨



Fold with dashed line inside



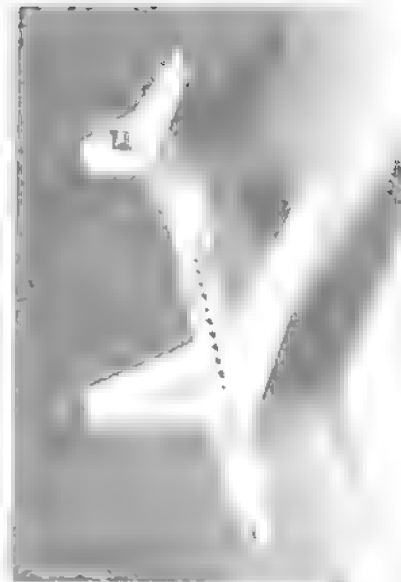
Fold with dashed lines inside

Fold with dashed line inside  
Arrows point forward



WhiteWings<sup>®</sup> Aérospatiale SE 210 CARAVELLE

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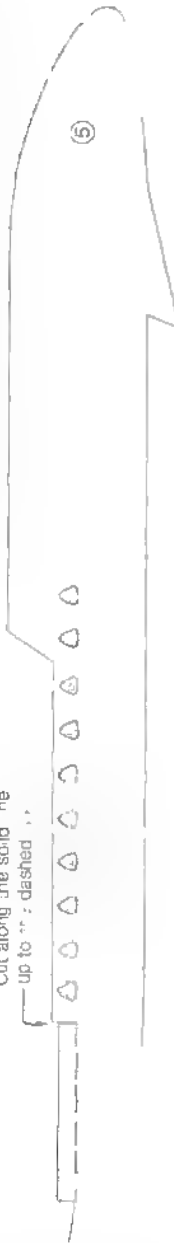




Cut along the solid line  
the dashed line



Cut along the solid line  
up to " : dashed "



①



②

10°

10°

Dihedral angle gauge

③



Arrow points forward

(10)

(12)

(13)

WhiteWings



Make the dihedral angle and install the engines along these lines



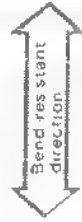
(11)



10"

Dihedral angle gauge

cut the solid lines along the solid lines and the dashed line up the dashed line



Bend resistant direction

WhiteWings

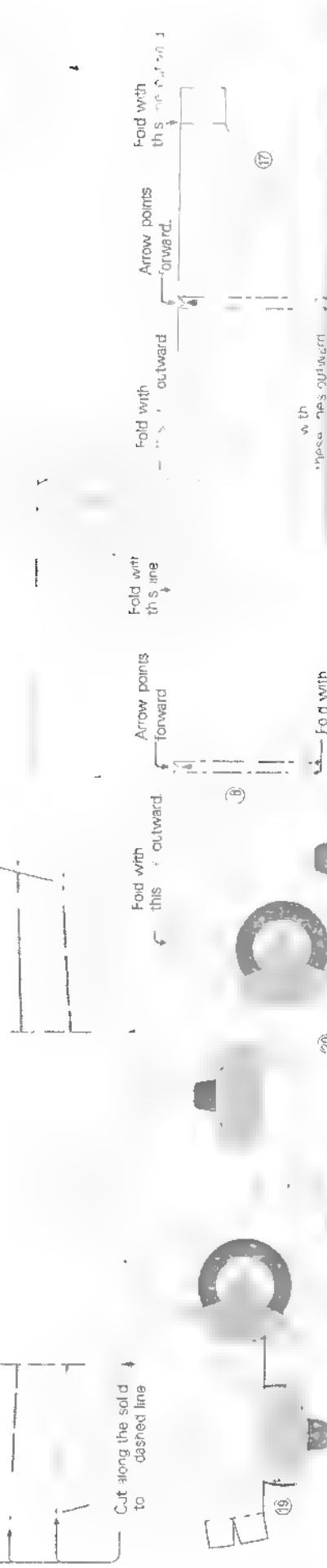
Douglas DC-3





Arrow points  
forward





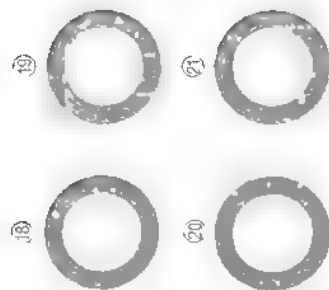
WhiteWings Ford 5AT TRIMOTOR





Arrow points forward

Make the dihedral angle along "



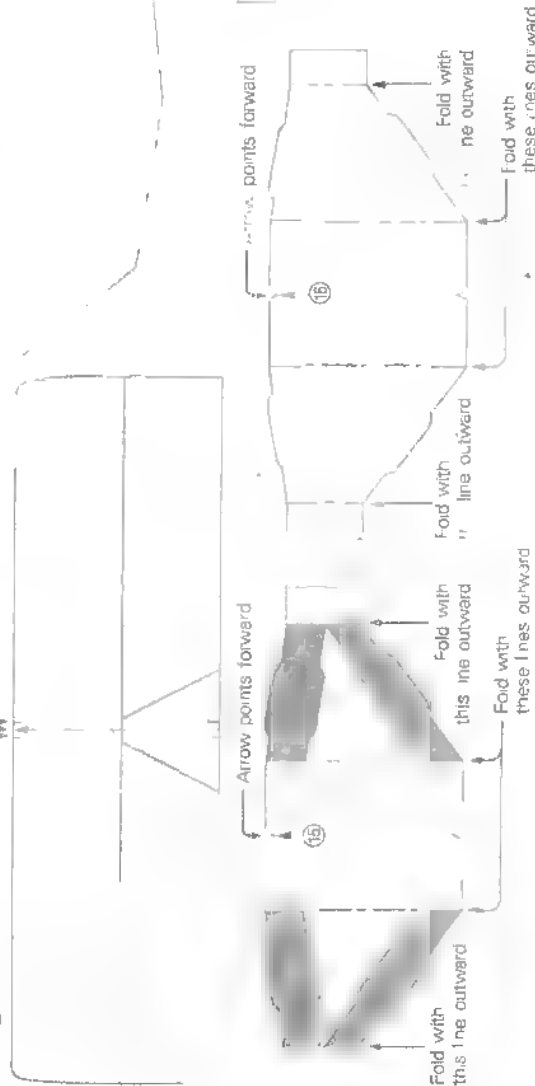
WhiteWings

13

Center guide lines

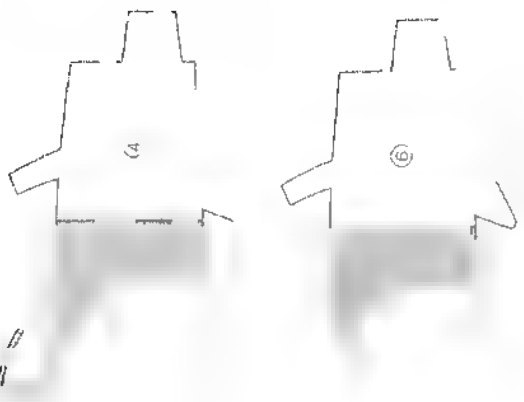
Arrow points forward

14

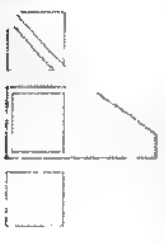
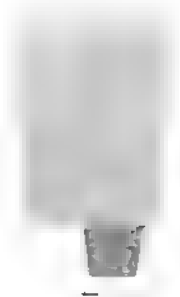


WhiteWings Junkers F-13

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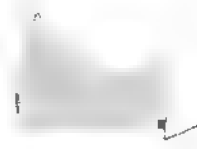
cut off the slit



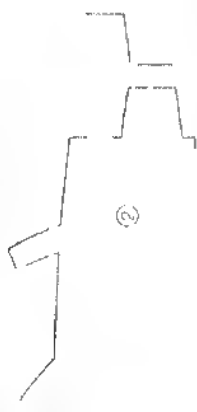
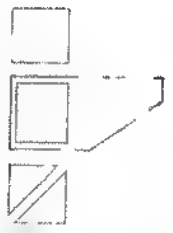
10



9



8



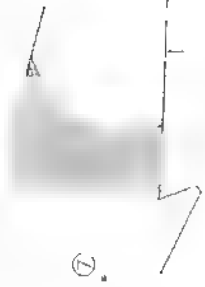
2

7

00



Dihedral:



1





# WhiteWings®

Racer 539 Hawk



Cut along the solid lines up to the dashed line

Cut along the dashed lines up to the dashed line

④

⑧

⑤



②



③

⑦

⑩

①

⑥

Arrow points forward

Dots toward the front

Dot towards the front



13

14



17



11

12

Dots toward the front

WhiteWings

Cut along the solid lines up to the dashed line

Dihedral angle gauge



30°

5°

5°

30°



16

10



Fold with dashed line inside  
Arrows point forward



Bend resistant direction



WhiteWings®

Racer 540 Crane

④

⑧

⑥

Arrow points forward

⑫

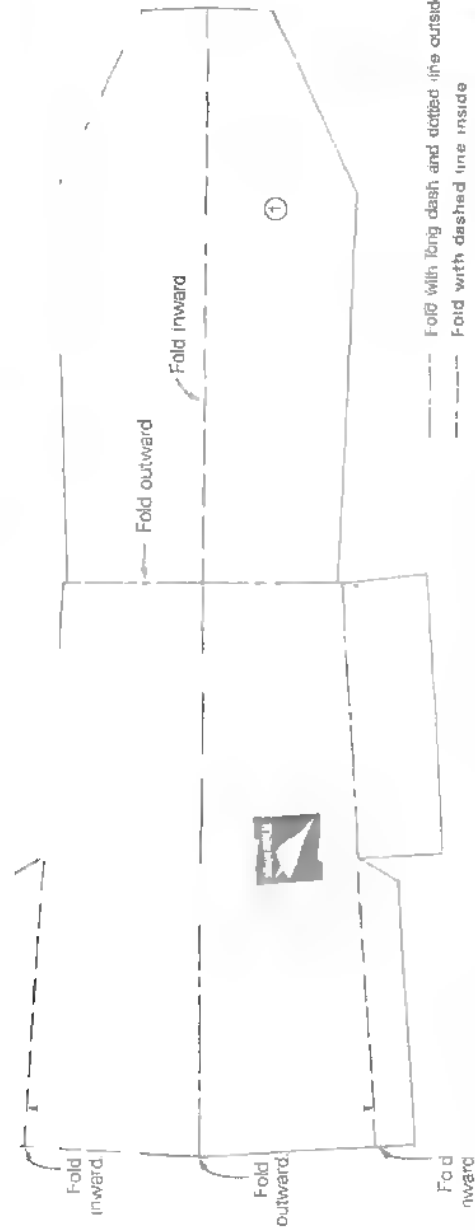
⑬

⑦

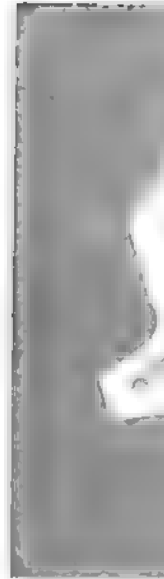
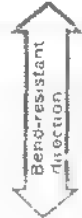
①

②

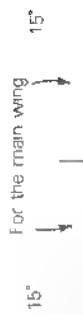
⑤



--- Fold with long dash and dotted line outside,  
--- Fold with dashed line inside



**White Wings®** Simple Plane



White wings

White wings

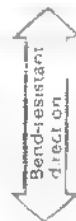
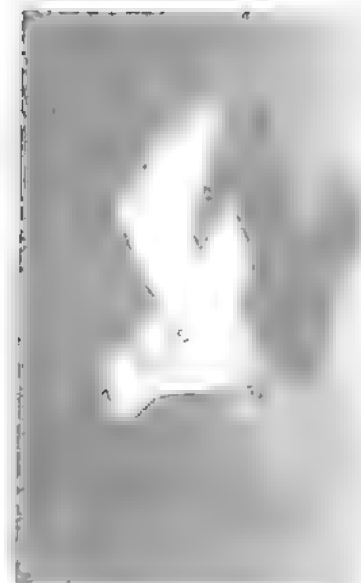
②

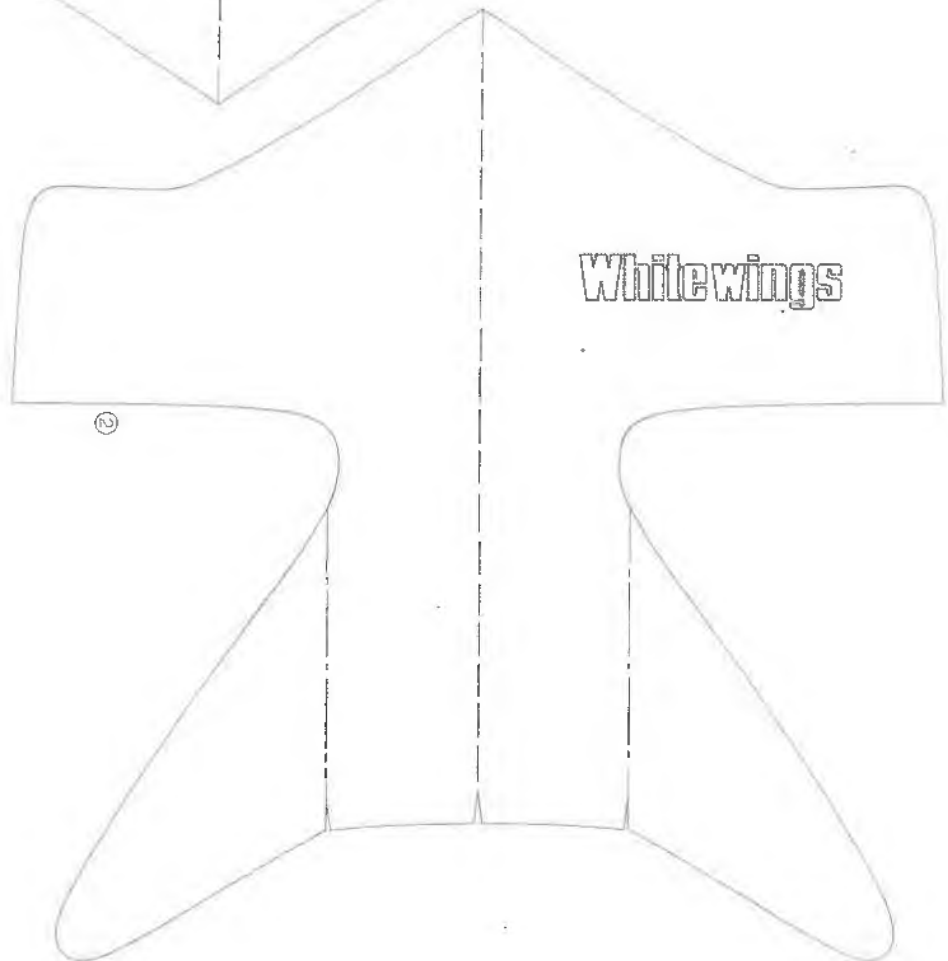
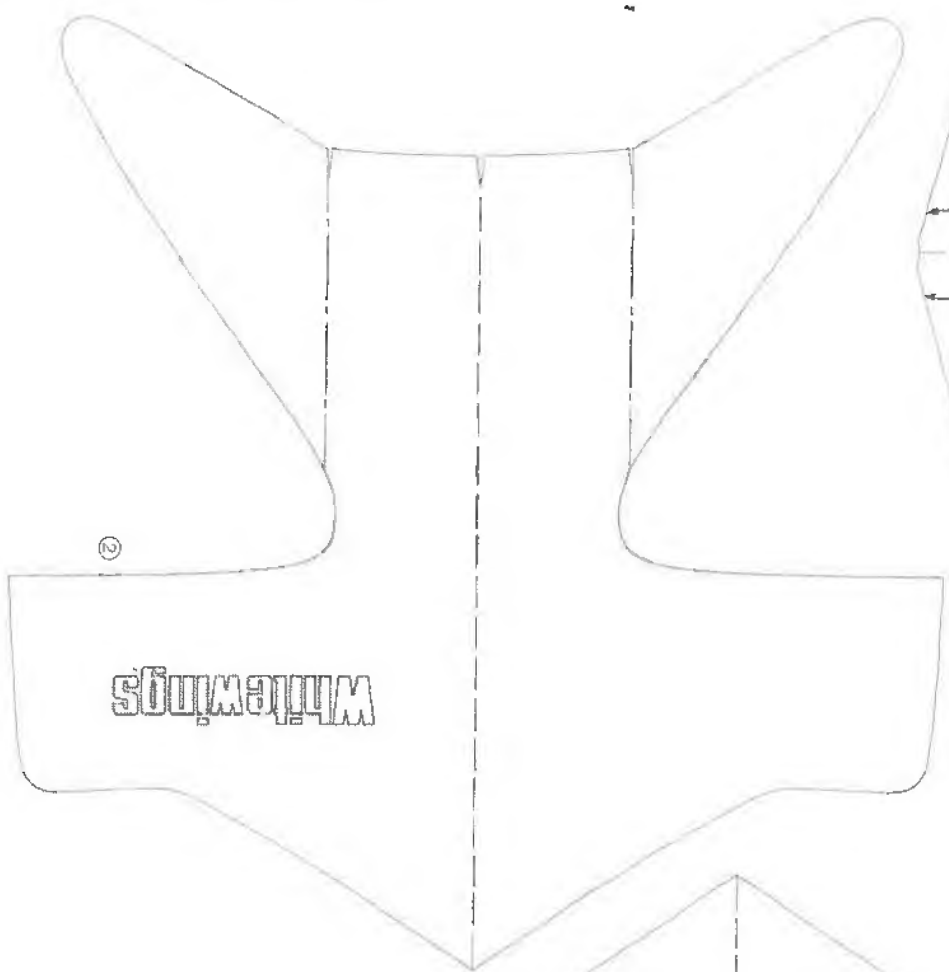
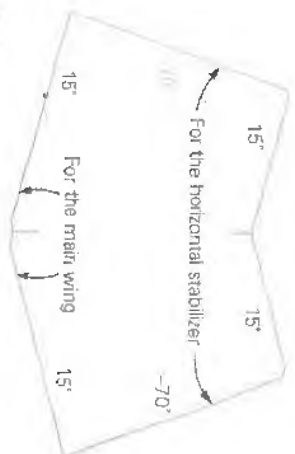


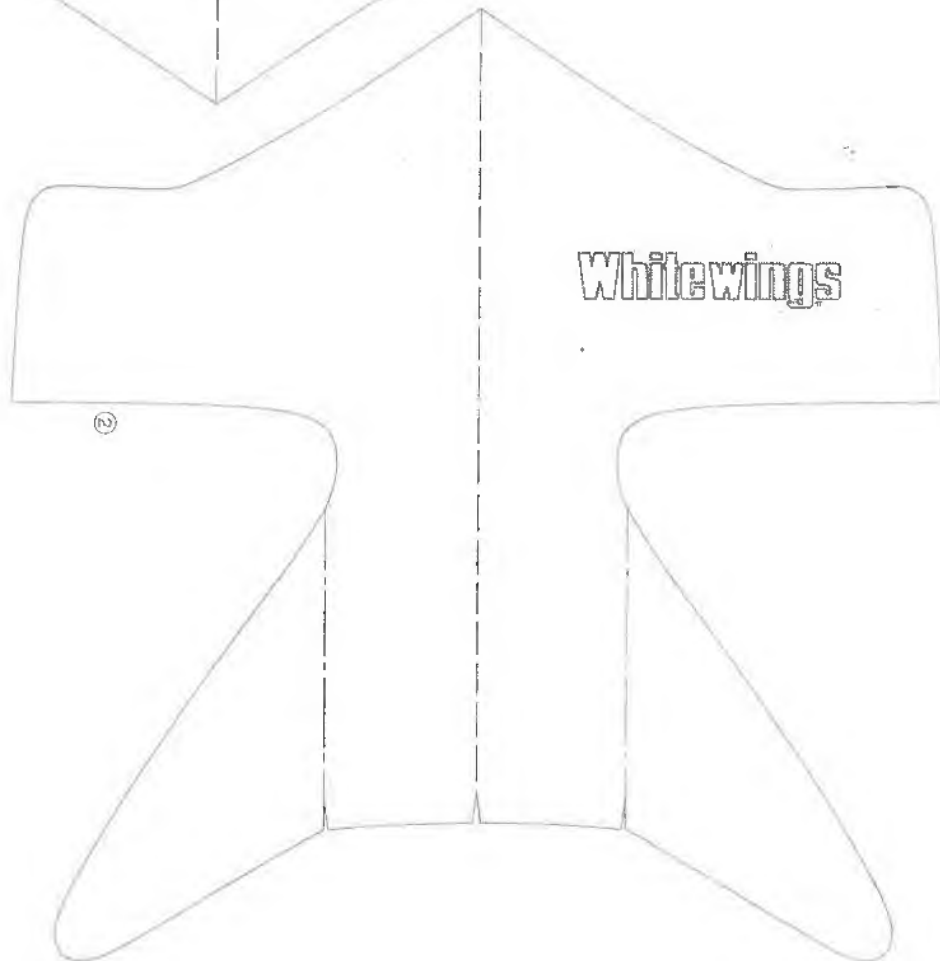
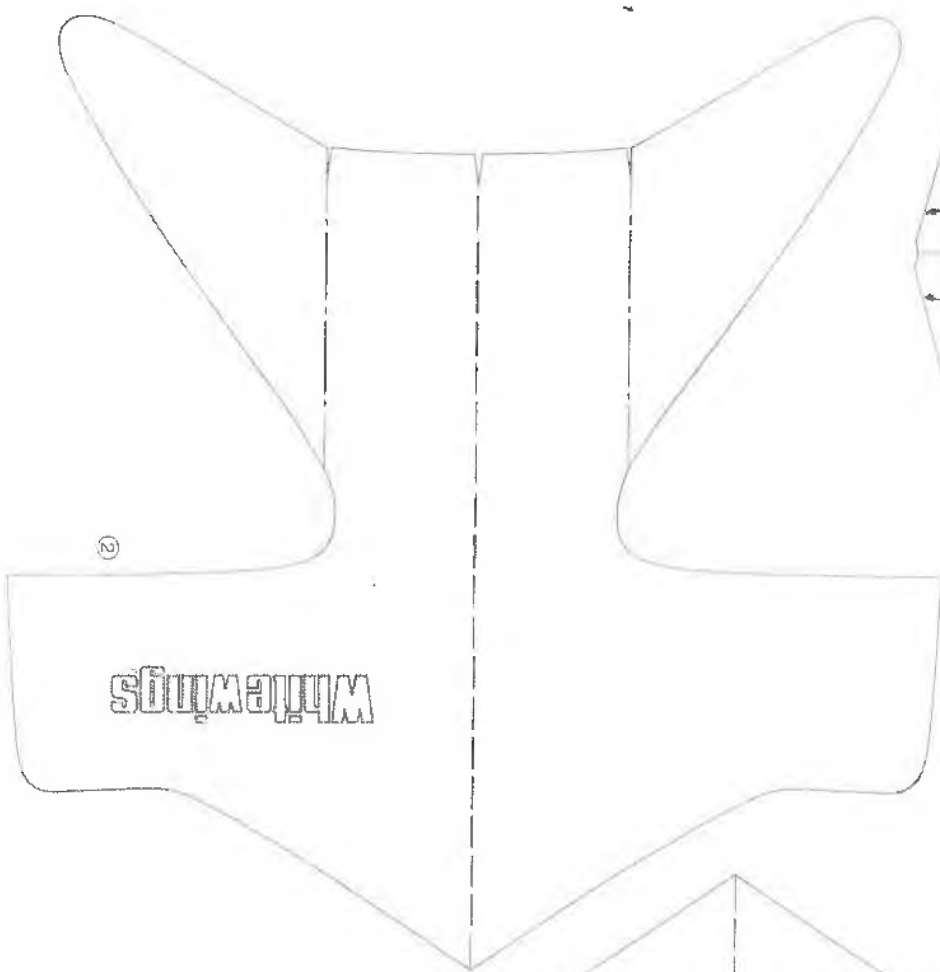
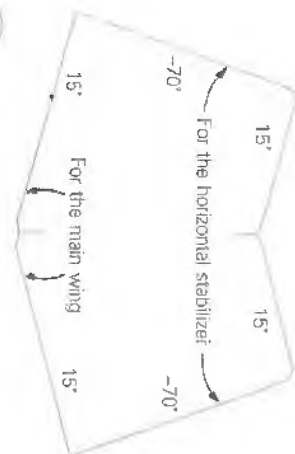
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*Eddie Bauer*

# HISTORY OF FLIGHT

by **WhiteWings**

Designed by Dr. Y. Ninomiya

**15** EXCELLENT  
PAPER  
AIRPLANES

